



Memorandum

To: *Amishi Castelli, Volpe Center Task Order Manager*

From: *Thomas Cook, CHMM, CDM Field Investigation Manager*

Date: *May 12, 2009*

Subject: *Investigation Summary – OU5 Re-development Area*

Background

CDM Federal Programs Corporation (CDM) was tasked with performing investigation activities within a designated area on the former Stimson Lumber Company site, OU5, to support future re-development activities. The investigation consisted of collecting soil samples for Libby amphibole (LA) asbestos analysis, performing inspections for vermiculite, and delineating areas with LA contamination and/or vermiculite for subsequent removal activities.

Investigation Summary

All work was completed in accordance with the technical memorandum dated April 17, 2009 from Thomas Cook to Amishi Castelli, Subject: Soil Sampling and Visual Inspection – OU5 Re-development Area (CDM 2009). The investigation activities were performed April 20 through April 22, 2009. Prior to field activities, a field planning meeting was held with key members of the field sampling team to review the sampling plan and procedures. There were no deviations in sampling or inspections from the technical memorandum or associated documents.

Eight sampling zones were established, sampled, and inspected in accordance with the technical memorandum (Figure 1). Only soil/gravel areas within the identified zones were sampled and inspected. Areas covered with concrete or pavement were not included as part of this inspection. Figure 2 illustrates the detail of each sampling zone and location of vermiculite observed. Copies of logbook entries, field sample data sheets, and visual vermiculite estimation forms are included in Attachment A.

A total of nine soil samples (eight field samples and one field duplicate) were collected. In addition, vermiculite inspections were performed in each sampling zone. All soil samples were analyzed for LA by the polarized light microscopy-visual estimation method (SRC 2008). Analytical results for all samples were non-detect for LA (Attachment B). Low amounts of vermiculite were observed in zones six and seven. In zone six, vermiculite was observed

concentrated within a specific area between the north road and concrete slab (Figure 2). Within zone seven, vermiculite was observed widespread throughout the entire zone. The following table summarizes the analytical and vermiculite inspection results for each sampling zone:

Zone	Sample Index ID	Analytical Result (Percent Libby Amphibole)	Number of Vermiculite Inspection Points by Zone			
			None	Low	Medium	High
1	SL-01760	Non-detect	30	0	0	0
2	SL-01761	Non-detect	30	0	0	0
2	SL-01768 ¹	Non-detect	30	0	0	0
3	SL-01762	Non-detect	30	0	0	0
4	SL-01763	Non-detect	30	0	0	0
5	SL-01764	Non-detect	30	0	0	0
6	SL-01765	Non-detect	30	6 ²	0	0
7	SL-01766	Non-detect	30	10 ³	0	0
8	SL-01767	Non-detect	30	0	0	0

¹sample SL-01768 is a field duplicate of SL-01761

²concentrated in specific area

³widespread throughout sample zone

Removal Activities

Areas requiring removal activities were identified based on results of this inspection and information gathered during previous investigations. In general, areas were identified for removal if vermiculite was observed and/or analytical results had detectable levels of LA. Figure 3 illustrates the areas requiring removal activities.

Prior to removal activities, a government representative will meet with the property owner to review the removal plan. During removal activities, only government-authorized personnel are allowed to access the areas being remediated.

All work at the property will be conducted in accordance with the Comprehensive Site Health and Safety Plan (CDM 2006) and the Response Action Work Plan, Revision 2 (CDM 2008a).

The following table summarizes the areas identified for removal and planned restoration activities.

Area	Rationale	Approximate Area (ft ²)	Excavation	Approximate Volume (yd ³)	Restoration
A	Vermiculite ¹	10,845	6 inches below surrounding grade	822	¾-inch minus crushed rock to grade
B	Vermiculite ²	25,300	12 inches below grade	937	¾-inch minus crushed rock to grade
C	Vermiculite ²	5,315	12 inches below grade	197	¾-inch minus crushed rock to grade

¹observed during vermiculite inspection June 2008

²observed during vermiculite inspection April 2009

ft² – square feet

yd³ – cubic yards

The total volume of material to remove is approximately 1,956 cubic yards. Area A, including mounded areas, will be excavated to 6 inches below surrounding grade. Areas B and C will be excavated to 12 inches below grade. Confirmation soil samples will be collected in accordance with the Response Action Sampling and Analysis Plan, Revision 1 (CDM 2008b). All areas will be restored with ¾-inch minus crushed rock (structural fill) to grade.

References

CDM. 2006. Comprehensive Site Health and Safety Plan, Revision 5. Libby Asbestos Project, Libby, Montana. December.

_____. 2008a. Response Action Work Plan, Revision 2, Libby Asbestos Project, Libby, Montana. February.

_____. 2008b. Response Action Sampling and Analysis Plan, Revision 1, Libby Asbestos Project, Libby, Montana. April.

_____. 2009. Technical Memorandum from Thomas Cook to Amishi Castelli, Subject: Soil Sampling and Visual Inspection – OU5 Re-development Area. April.

SRC. 2008. Analysis of Asbestos Fibers in Soil by Polarized Light Microscopy, SOP No. SRC-LIBBY-03, Revision 2. October.

Amishi Castelli
May 12, 2009
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cc: Julie Borgesi - Volpe Center, Cambridge
Courtney Zamora - Volpe Center, Libby
Dee Warren - CDM, Denver
Terry Crowell - CDM, Libby
Libby Project File - Denver

Figure 1

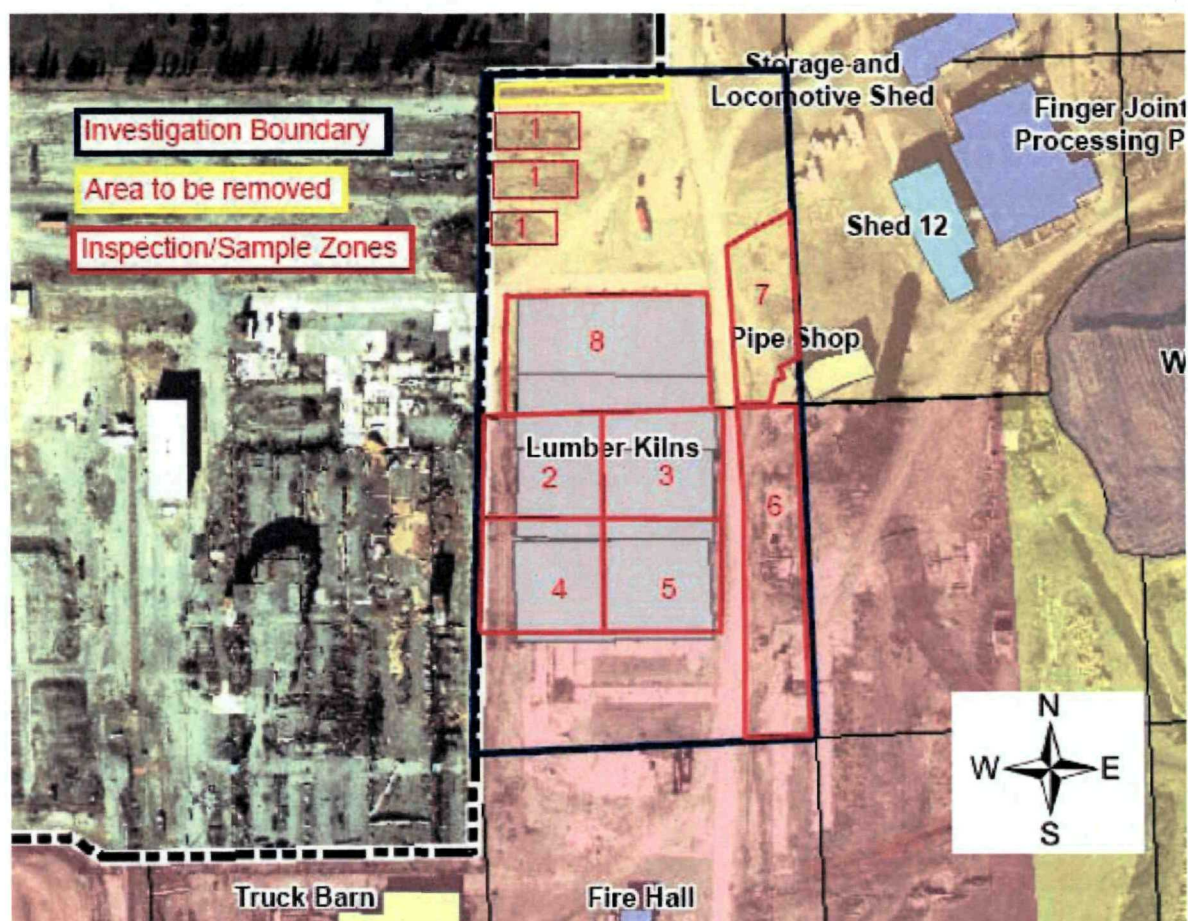
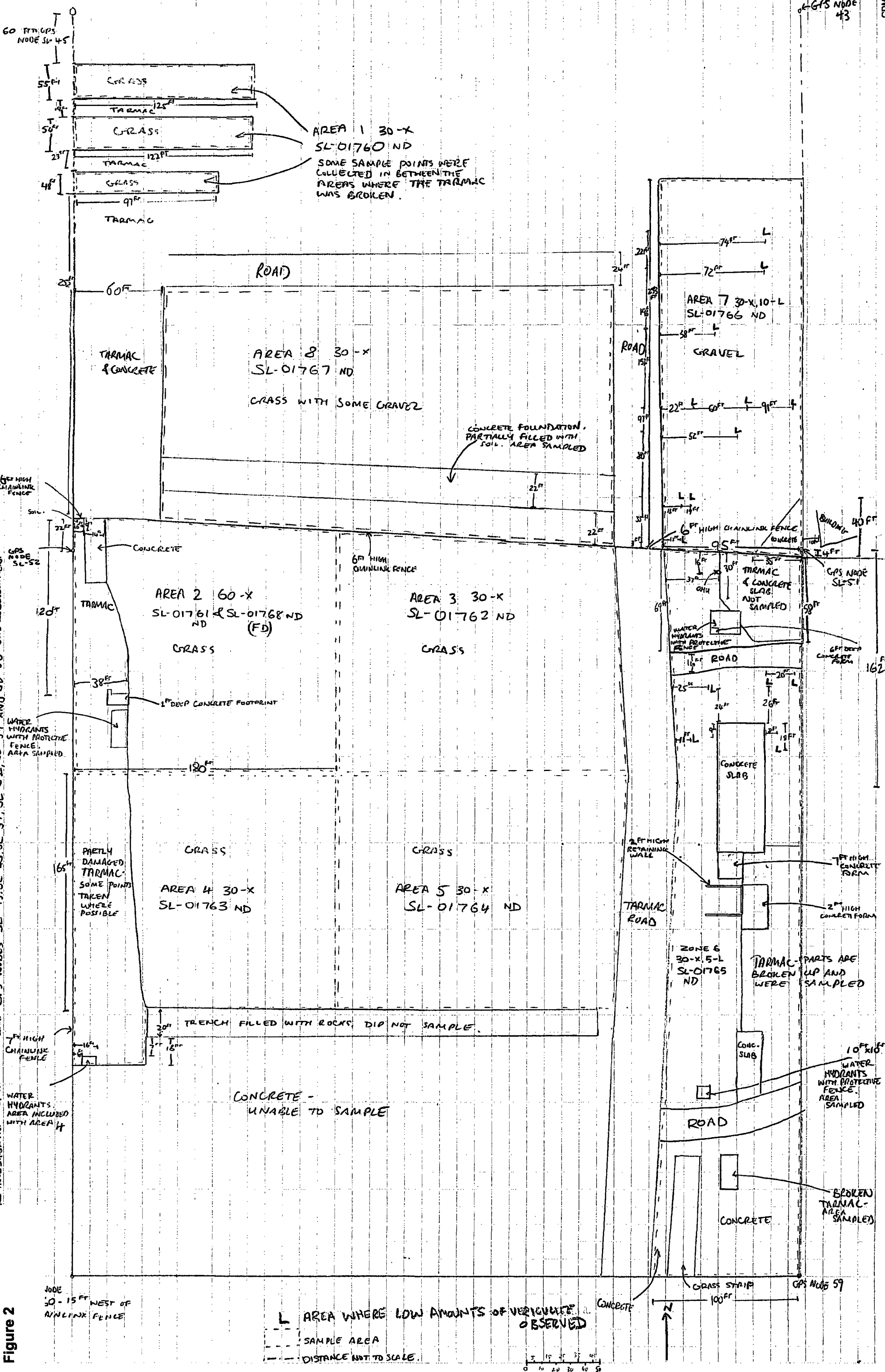


Figure 2

CLIENT VOLPE
PROJECT LIBBY ASBESTOS
DETAIL 875 HWY 2 S - STANSON
COMPUTED BY S. WILSON
DATE 4-22-09
PAGE NO. 1
JOB NO. _____
DATE CHECKED BY _____
CHECKED BY _____
RE-INVESTIGATION OF AREAS AROUND GPS NODES SL-43, SL-45, SL-51, SL-52, SL-59 AND SL-60 - OUS REDEVELOPMENT



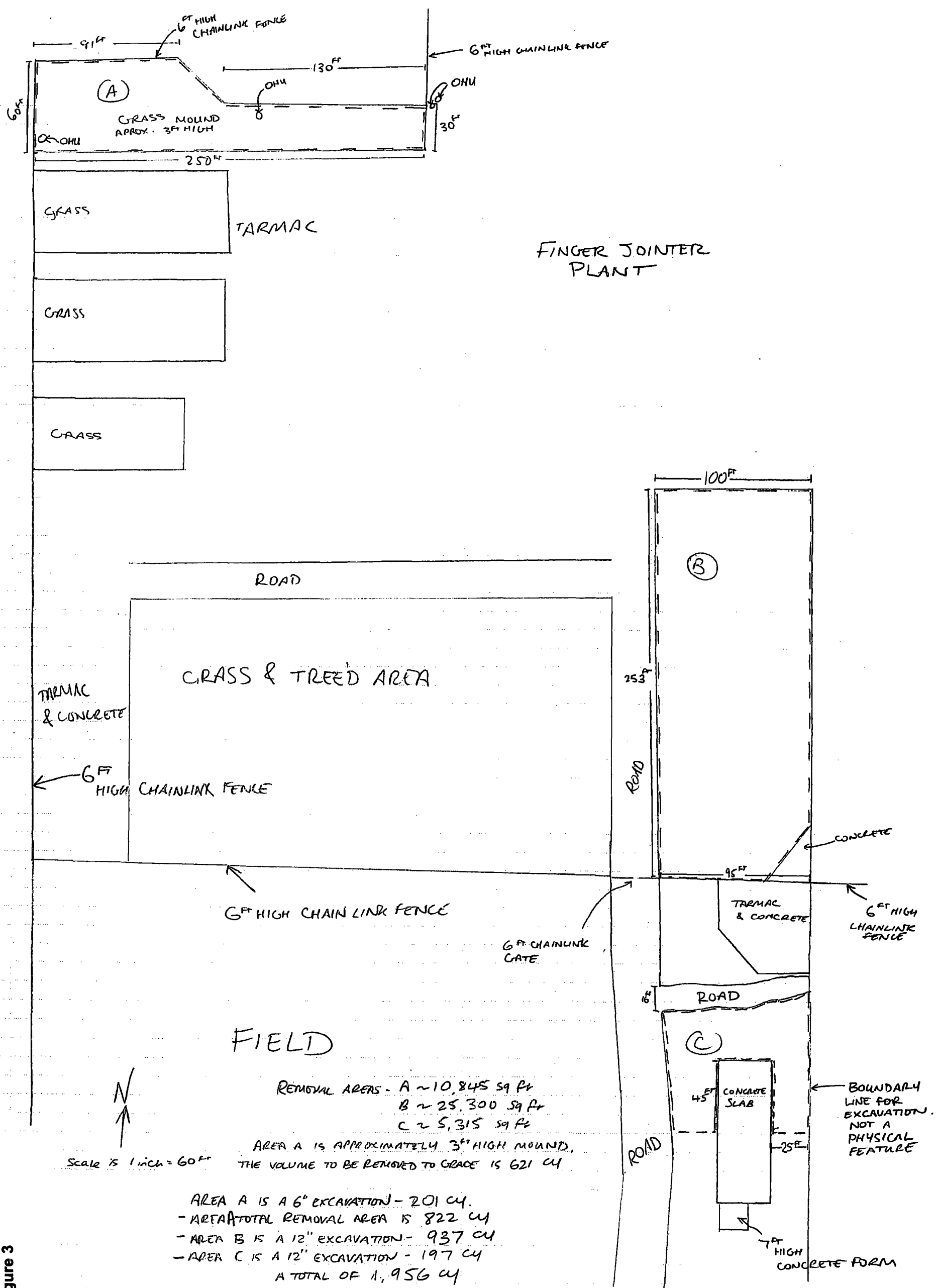


Figure 3

Attachment A

**Field logbooks, field sample data sheets, and visual vermiculite
estimation form**

Volpe/Libby Asbestos Project Logbook: 101093

Owner: STIMSON LUMBER Date: 4-20-2009

Address: 875 Highway 2S

Author: A.M. Crites Weather: Sunny 60°

Personnel: A.M. Crites, S. Wilson

Activities: SAMPLING & VISUAL INSPECTION

PPE: Level D Modified

All activities completed in accordance w/governing doc.
PDIWP, SOP CDM-Libby-06, Rev.1, and SOP CDM-Libby-05, Rev. 2.

Trimble 6: ProXRS Asset Surveyor 5.27

Datalogger: 0220169420

Antenna: 0220173334

Receiver: 0220270889

1300 ON site to ~~collect~~ map out sample collection areas for site development plan, per Technical Memorandum - OUS Re-development Area 04/17/09; Addendum - Initial Soils Data Gap Sample Collection Visual Vermiculite Inspection OUS, June 2008. Sampling will consist of 8 field soil samples plus one field duplicate. Team investigates sample area and designates sample ~~areas~~ zones. Some zones were decreased due

AMC 4-20-09

20 Volpe/Libby Asbestos project Logbook 10093
875 Highway 2nd Stimson Lumber 4.20.09
to large amounts of concrete and asphalt.
1420 Nick Raines, Field Team Leader,
COM, on site to approve zone size
changes.

1425 N. Raines off site
1515 Team off site to update maps.
1600 Team on site to stake out
sample zones, complete AHA form.
1430 Team off site ~~AMC 4.20.09~~

April 21, 2009

0935 A.M. Crites on site to begin
sampling and visual inspection
Weather: Sunny 45°; PPE: Level D,
modified. A.M. Crites completes AHA form.

1015 S. Wilson on site to begin
sampling and visual inspection

12:00 Team off site for lunch

13:00 Team on site to resume sampling
Visible vermiculite observed
in ~~zones~~ 6 and 7.

No visible vermiculite in zones
1, 2-5, or 8.

Field duplicate collected in
zone 2.

AMC
4.21.09

Volpe/Libby Asbestos Project Logbook 101093 21
875 Highway 2nd Stimson Lumber 4.21.09
GPS points collected for all samples
All equipment decontaminated
between samples and IDW
disposed of as ACM according
to SOP.

The following samples were
collected:

Zone 1: SL-01760, SP-136649, no
visible; FSDS S-005457

Zone 2: SL-01761, SP-136650, no
visible; FSDS S-005457

Zone 3: SL-01762, SP-136651, no
visible; FSDS S-005457

Zone 4: SL-01763, SP-136652, no
visible; FSDS S-005458

Zone 5: SL-01764, SP-136653, no
visible in sample area FSDS S-005458

Zone 6: SL-01765, SP-136654, no
visible in sample area FSDS-005458

4L in area south of E-W road,
E of main road in north half of
Zone 6

Zone 7: SL-01766, SP-136655, no visible
in sample area FSDS S-005459.

AMC 4.21.09

22 Kolpe/Libby Asbestos Project Logbook 101093
875 Highway 2 ^S W. Stimson Lumber 4.21.09
4.22.09

10 L Visible in Zone 7. Sample
collected in areas with no visible.
Zone 8: SL-01767, SP-136656, no visible.
Field Duplicate: SL-01768, SP-136650
no visible. Duplicate of SL-01761.
Photos taken of all areas.

1520 T. Cook, Field Investigation

Manager, on site to observe sampling
and consult with team. Approved
sampling in Zones 6 and 7 where
visible vermiculite was present,
but not in sample points collected.

1555 T. Cook off site

1630 Team concludes sampling. All
equipment decontaminated and IDW
disposed of as ACM per SOP.

1655 Samples relinquished to Christy
Bilbert and Tracy Dodge, Sample
Coordinators under CAC. ^{Amc} 4.21.09

April 22, 2009

0900 S. Wilson returns to site to
collect measurements for WEF map.

1025 S. Wilson back in CDM office

relinquish logbook to S. Wilson

Am Crites AnnMarie Crites
4.22.09

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 101093 Page No: 19-21 Sampling Date: 4-21-2009Address: 875 HIGHWAY 2 S Owner/Tenant: STINSON LUMBERBusiness Name: STINSON LUMBERLand Use: Residential School Commercial Mining Roadway Other ()Sampling Team: CDM Other Names: S. Wilson, A. M. Crites

Data Item	Sample 1 ①	Sample 2 ②	Sample 3 ③
Index ID	SL- 01760 <i>AMC</i>	SL- 01761 <i>AMC</i>	SL- 01762 <i>AMC</i>
Location ID	SP- 136649 <i>4-20-09</i>	SP- 136650 <i>4-20-09</i>	SP- 136651 <i>4-20-09</i>
Sample Group	PROPERTY →		
Location Description (circle)	Back yard Front yard Side yard AREA 1 Driveway <u>Other</u>	Back yard Front yard Side yard AREA 2 Driveway <u>Other</u>	Back yard Front yard Side yard AREA 3 Driveway <u>Other</u>
Category (circle)	<u>FS</u> FD of _____ EB LB	<u>FS</u> FD of _____ EB LB	<u>FS</u> FD of _____ EB LB
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	Grab <u>Comp. # subsamples 30</u>	Grab <u>Comp. # subsamples 30</u>	Grab <u>Comp. # subsamples 30</u>
GPS Status (circle)	<u>Collected</u> Previously Collected Not Collected-no signal (3 attempts) Not Collected-not required for sample	<u>Collected</u> Previously Collected Not Collected-no signal (3 attempts) Not Collected-not required for sample	<u>Collected</u> Previously Collected Not Collected-no signal (3 attempts) Not Collected-not required for sample
GPS File (fill in or circle)	Filename: <u>T6A04219</u> NA	Filename: <u>T6A04219</u> NA	Filename: <u>T6A04219</u> NA
Sample Time	1030	1055	1140
Top Depth (inches below ground surface)	0	0	0
Bottom Depth (inches below ground surface)	6	6	6
Field Comments <i>Note if vermiculite is visible in sampled area</i>	BD- <u>AD-000686</u> NO VISIBLE →		
Entered (LFO) _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion (Provide Initials)

Completed by: AMCQC by: SW

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 101093 Page No: 19-21 Sampling Date: 4.21.2009
 Address: 875 Highway 2S Owner/Tenant: STIMSON LUMBER
 Business Name: STIMSON LUMBER
 Land Use: Residential School Commercial Mining Roadway Other ()
 Sampling Team: CDM Other _____ Names: S. Wulson, A.M. Crites

Data Item	Sample 1 ⁽⁴⁾	Sample 2 ⁽⁵⁾	Sample 3 ⁽⁶⁾
Index ID	SL- 01763 ^{AMC}	SL- 01764 ^{AMC}	SL- 01765 ^{AMC}
Location ID	SP- 136652 ^{4.20.09}	SP- 136653 ^{4.20.09}	SP- 136654 ^{4.20.09}
Sample Group	PROPERTY →		
Location Description (circle)	Back yard Front yard Side yard <u>AREA 4</u> Driveway Other _____	Back yard Front yard Side yard <u>AREA 5</u> Driveway Other _____	Back yard Front yard Side yard <u>AREA 6</u> Driveway Other _____
Category (circle)	<u>FS</u> FD of _____ EB LB	<u>FS</u> FD of _____ EB LB	<u>FS</u> FD of _____ EB LB
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	Grab <u>Comp. # subsamples 30</u>	Grab <u>Comp. # subsamples 30</u>	Grab <u>Comp. # subsamples 30</u>
GPS Status (circle)	<u>Collected</u> Previously Collected Not Collected-no signal (3 attempts) Not Collected-not required for sample	<u>Collected</u> Previously Collected Not Collected-no signal (3 attempts) Not Collected-not required for sample	<u>Collected</u> Previously Collected Not Collected-no signal (3 attempts) Not Collected-not required for sample
GPS File (fill in or circle)	Filename: <u>T6A04219</u> NA	Filename: <u>T6A04219</u> NA	Filename: <u>T6A04219</u> NA
Sample Time	1355	1330	^{AMC} 1500 1548 ^{4.21.09}
Top Depth (inches below ground surface)	0	0	0
Bottom Depth (inches below ground surface)	6	6	6
Field Comments Note if vermiculite is visible in sampled area	BD- <u>AD-000686</u> NO VISIBLE →	BD- <u>AD-000686</u>	BD- <u>AD-000686</u>
Entered (LFO) _____	Volpe: _____ Entered _____ Validated _____	Volpe: _____ Entered _____ Validated _____	Volpe: _____ Entered _____ Validated _____

For Field Team Completion (Provide Initials)

Completed by: AMCQC by: SW

LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 101093 Page No: 19-21 Sampling Date: 4-20-09 ^{AMC}Address: 875 Highway 20 Owner/Tenant: STIMSON LUMBER ⁴⁻²¹⁻⁰⁹Business Name: STIMSON LUMBERLand Use: Residential School Commercial Mining Roadway Other ()Sampling Team: CDM Other _____ Names: S. Wilson, A.M. Crites

Data Item	Sample 1 ^①	Sample 2 ^②	Sample 3 ^③
Index ID	* SL- 01766 ^{AMC}	SL- 01767 ^{AMC}	SL- 01768 ^{AMC}
Location ID	SP- 136655 ^{4.20.09}	SP- 136656 ^{4.20.09}	SP- 136650 ^{4.20.09}
Sample Group	PROPERTY →		
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> AREA 7	Back yard Front yard Side yard Driveway <u>Other</u> AREA 8	Back yard Front yard Side yard Driveway <u>Other</u> AREA 2
Category (circle)	<u>FS</u> FD of _____ EB LB	<u>FS</u> FD of _____ EB LB	<u>FS</u> SL- 01761 FD of <u>SL- 01764</u> ^{SW} EB LB
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> <u>Comp. # subsamples 30</u>	<u>Grab</u> <u>Comp. # subsamples 30</u>	<u>Grab</u> <u>Comp. # subsamples 30</u>
GPS Status (circle)	<u>Collected</u> Previously Collected Not Collected-no signal (3 attempts) Not Collected-not required for sample	<u>Collected</u> Previously Collected Not Collected-no signal (3 attempts) Not Collected-not required for sample	<u>Collected</u> <u>Previously Collected</u> Not Collected-no signal (3 attempts) Not Collected-not required for sample
GPS File (fill in or circle)	Filename: <u>TGA04219</u> NA	Filename: <u>TGA04219</u> NA	Filename: <u>TGA04219</u> NA
Sample Time	1615	1125	1430
Top Depth (inches below ground surface)	0	0	0
Bottom Depth (inches below ground surface)	6	6	6
Field Comments <i>Note if vermiculite is visible in sampled area</i>	BD-AD-000686 NO VISIBLE * sample is valid ^{TE 3/11/09}	BD-AD-000686 NO VISIBLE →	BD-AD-000686
Entered (LFO) <u>EA</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

LIBBY SUPERFUND SITE
Visual Vermiculite Estimation Form (VVEF)

Field Logbook No.:	101093	Page No.:	19	Site Visit Date:	4/21/2009	BD Number:	AD-000686
Address:	875 Hwy 2 S			Structure Description:	Property		
Occupant:	Stimson			Phone No.:			
Owner (If different than occupant):	same			Phone No.:			
Investigation Team:	S.Wilson, A.M Crites			Investigation Name:	OU5 Redevelopment		
Field Form Check Completed by (100% of Forms):				Visual Verification by Field Team Leader (10% of forms):			

		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
Type (SUA/CUA/LUA/ISA)		LUA	LUA	LUA	LUA	LUA	LUA	LUA	LUA
Description		PROPERTY	PROPERTY	PROPERTY	PROPERTY	PROPERTY	PROPERTY	PROPERTY	PROPERTY
Area Size (square feet)		18119	30600	28500	29700	31350	28900 (not including concrete)	24035	49600
General Comment (Cover, etc.)		GRASS	GRASS	GRASS	GRASS	GRASS	GRASS	STRUCTURAL FILL	GRASS
Pls (X=None, L=Low, M=Intermediate, H=High)	X	30	60	30	30	30	30	30	30
	L						5	10	
	M								
	H								
Total		30	60	30	30	30	35	40	30

Areas previously identified for removal not inspected for visible vermiculite?	Yes	Location(s): Area along north boundary of GPS node SL-45 and SL-43
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Attachment B
Analytical Results

FILE NAME: RESI_171988_PLM_VE.xls

Version : 7c

PLM VISUAL ESTIMATION DATA RECORDING SHEET

Laboratory Name	RESI	
Job Number	171988	
Date Received	4/28/2009	
SOP Name/Revision	SRC-LIBBY-03 (Rev 2)	
Spreadsheet version	7c	

Data Entry by: K. Carlaccini

Data Entry Date: 4/29/2009

QC Check by: G. Vettrai

QC Check Date: 4/29/2009

[illegible]